

Date: Tuesday, 1/2/2007 11:29:11 AM  
 User: Eric Charbonneau

## Process Sheet

Customer : CC-DAR01 Dart Aerospace Ltd. Drawing Name : INITIAL PROTOTYPE TEMPLATE  
 Job Number : 00085A  
 Estimate Number : 10068  
 P.O. Number :  
 This Issue : 1/2/2007 S.O. No. :  
 Prsht Rev. : NC  
 First Issue : 11/9/2006 Type : R&D GENERAL  
 Previous Run : 00084A  
 Part Number : INITIAL PROTOTYPE D412-664-145  
 Drawing Number : Under review  
 Project Number : LG0006  
 Drawing Revision :  
 Material :  
 Due Date : 10/10/2006 Qty: 1 Um: Each  
 Written By :  
 Checked & Approved By :  
 Comment : Project #:   
 Description:   
 Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 MFG ENGINEERING MFG ENGINEERING



Comment: Setup: 0.00Hrs/ Run: 0.0000Hrs Total Run : 0.0000Hrs  
 MFG ENGINEERING  
 Manufacture Prototype as per Dwg's Supplied By Engineering  
 Comments:

1. - Matl D6019-128 batch: B29869 BG 06.11.07 (C)
2. - Turn as per Dwg D412-664-145 BG 06.11.07
3. - Level 2 BG 06.11.07
4. - Level 8 CA 07/01/02
5. - Bend as per Dwg D412-664-145 DP 7-1.5 (Fiber)
6. - Inspect Level 15 (P07.01.09)
7. - CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 DP 7-1.8 Fiber (B)
8. - ASSEMBLE Qty(4) M521920-24 BAN M100213 6398 MAGNIBOND M102437  
 Qty(2) D2056-1-851 B26650 N/A 07.01.08 D2732-044 B26472 94x4  
 Qty(2) D2893-1 N/A B27475 07.01.08  
 9. - INSPECT LEVEL 5 (P07.01.08) N/A B26657 07.01.08 DP 7-1.8

2.0 PG PURCHASING



Comment: Setup: 0.00Hrs/ Run: 0.0000Hrs Total Run : 0.0000Hrs  
 PURCHASING  
 Attached certificate of conformity for raw material and subcomponents use for this w/o

P07.01.08

Date: Tuesday, 1/2/2007 11:29:13 AM  
User: Eric Charbonneau

## Process Sheet

Customer: CC-DAR01 Dart Aerospace Ltd.

Drawing Name: INITIAL PROTOTYPE TEMPLATE

Job Number: 00085A

Part Number: INITIAL PROTOTYPE

Job Number:



Seq. #:	Machine Or Operation:	Description :
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3.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: Setup: 0.00Hrs/ Run: 0.0000Min Total Run : 0.0000Hrs

PACKAGING

Identify "FOR ENGINEERING USE ONLY" and distribute to engineering.

N/A

CP 07.01.09

4.0

ENGINEERING 1

ENGINEERING RESOURCE #1



Comment: Setup: 0.00Hrs/ Run: 0.0000Min Total Run : 0.0000Hrs

ENGINEERING RESOURCE #1

Approval of project manager.

CP 07.01.09

5.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: Setup: 0.00Hrs/ Run: 0.0000Hrs Total Run : 0.0000Hrs

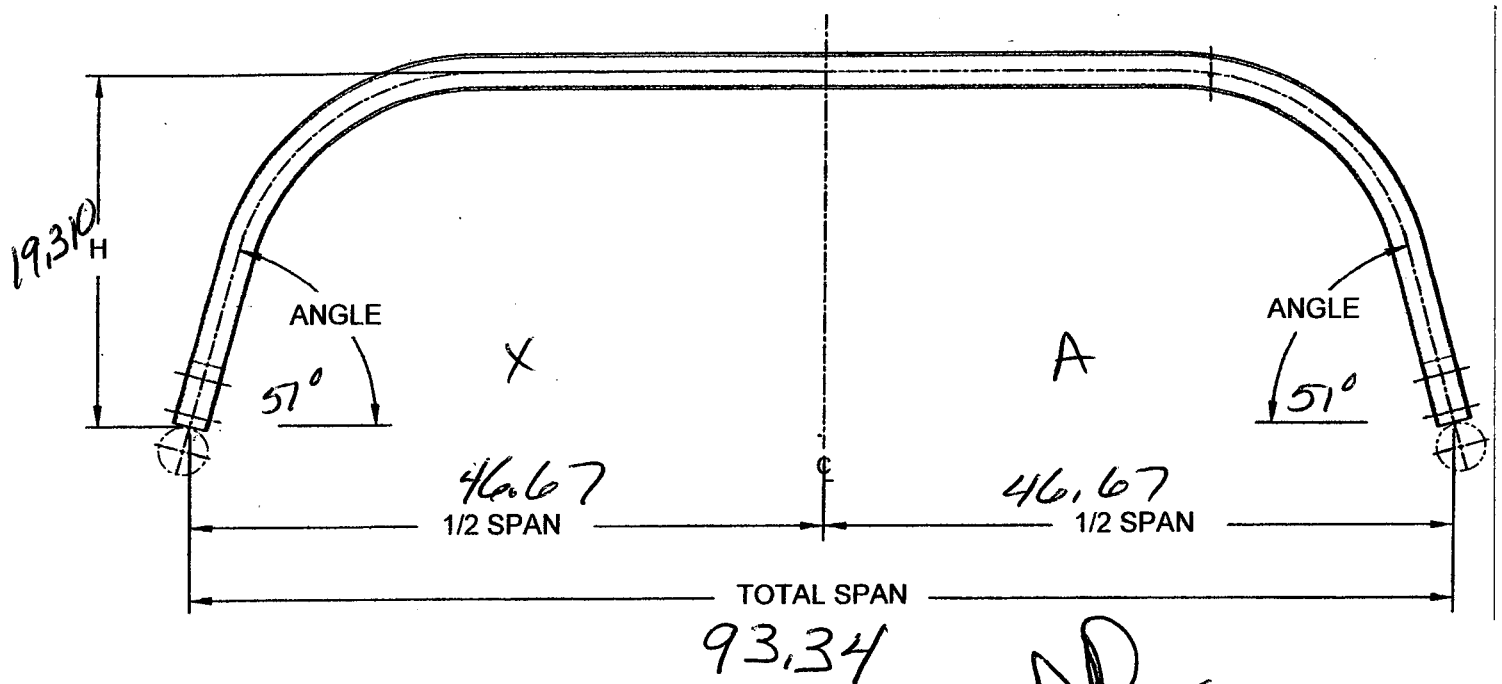
FINAL INSPECTION/W/O RELEASE

A 07.01.09

Job Completion



# Crosstube Bend Dimension Sheet



PART NUMBER: 412 ULF/Tube B D412-641-145

BATCH NUMBER: 00085A

DRAWING: D412-641-145 REVISION: PRELIMINARY ISSUE

H: \_\_\_\_\_

1/2 SPAN: \_\_\_\_\_

TOTAL SPAN: \_\_\_\_\_

ANGLE: \_\_\_\_\_

QC 15: \_\_\_\_\_

DATE: 07.01.05

QTY: 1



DP  
7-1-5

# PRELIMINARY ISSUE

## ENGINEERING CHANGE NOTICE

<b>DART AEROSPACE LTD</b>		Amendment Design Review (ADR) Yes/No: No	<b>ECN #:</b> 889
Date: 06.12.11	ADR Date: N/A		
Job No: 00085	Created By: [Signature]	Checked By:	
Product No: D412-664-245	Approved By:	Approved By:	
Product Name: CROSSTUBE INSTALLATION	(Proj. Manager) [Signature]	(Management if reqd)	

### Documents Affected:

### PRELIMINARY ISSUE

-Release preliminary issue of D412-664-245 Rev.A

**D412-664-145 Rev.A**

#	Engineering Actions	Yes	No	Responsible	To happen by:	Complete
1	Required Documents/Drawings Under Review?		X			
2	Update Blue/Pink Folder/Electronic File		X			
3	Update DSI Folder/Electronic File		X			
4	Update D-Part Master Binder		X			
5	Update Grey Project Binder		X			
6	Update DEO/DSI Binder		X			
7	Update Master Document List (MDL)		X			
8	Update Document Record (DR)		X			
9	Update Change Record Form		X			
10	Move Electronic File		X			
11	Notify TC of Change		X			
12	Notify FAA of Change		X			
13	Update QSI 021 (TC/FAA STC)		X			
14	Update QSI 036 (K-Kits)		X			
15	Update Accpac Database	X		KJ	06.12.11	06.12.11 [Signature]
16	Update Access Database		X			
17	Verification ARC		X			
18	Update STC Approval List		X			
19	Update Product Development Summary		X			
20	Create/Update COSS (Estimate/BOM)		X			
21	Create/Update PPP's		X			
22	Update Paperwork Kits in Production		X			
23	Update Paperwork Kits in Stock		X			
24	Red Tag Stock with old CHG #		X			
25	Rework/Scrap Current Production		X			
26	Rework/Scrap Kits in Stock?		X			
27	Update Qpulse/Laminated Dwgs		X			
28	Create/Update Controlled PDF Files		X			
29	Create/Update FAI sheets	X		JLM/EC		
30	Create/Update CNC Programs	X		JLM/EC		
31	Create/Update Tooling	X		JLM/EC		
32	MPP required?		X			
33	Notify Previous Customers		X			
34	Notify Eurocopter France		X			
35						
36						

### Description / Action:

-PRELIMINARY ISSUE of dwg to allow production to make prototypes for D412-664-245 / ~~D412-664-205~~ crosstubes ; **D412-664-145**  
 -there are a number of taper transitions that would make programing from dwg difficult, make turning profile from dxf from engineering.  
 -estimated should say "preliminary issue"

ECN Complete: \_\_\_\_\_ Date: \_\_\_\_\_

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> W00085A
<b>Description:</b> Crosstube Assembly	<b>Part Number:</b> D412-664-145
<b>Inspection Dwg:</b> D412-664-145 Rev: A	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☐ First Article ☒ Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.740	$\pm .005$ $-.000$	2.744	✓		
	2.490	"	2.494	✓		
	2.557	"	2.561	✓		
	2.624	"	2.627	✓		
	2.692	"	2.695	✓		
	2.750	$\pm .010$	2.745	✓		
SIDE B	124.476	$\pm .020$	124.476	✓		
	2.740	$\pm .005$	2.744	✓		
	2.490	"	2.493	✓		
	2.557	"	2.561	✓		
	2.624	"	2.627	✓		
	2.692	"	2.695	✓		
	2.750	$\pm .010$	2.745	✓		

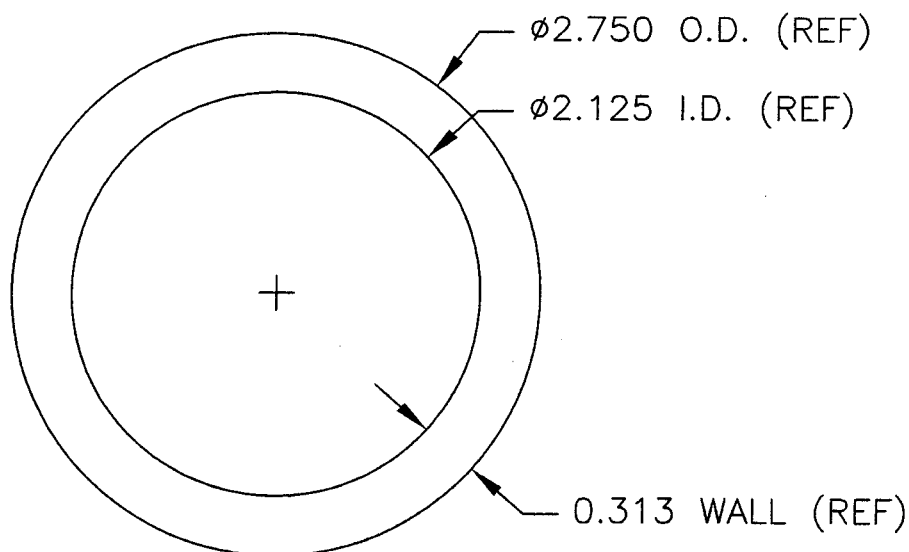
<b>Measured by:</b> MB	<b>Audited by:</b> JmL	<b>Prototype Approval:</b> N/A
<b>Date:</b> 07/01/03	<b>Date:</b> 07/01/03	<b>Date:</b> N/A

<b>Rev</b>	<b>Date</b>	<b>Change</b>	<b>Revised by</b>	<b>Approved</b>
A		New Issue	KJ/JLM	

**ELIMINARY ISSUE**

DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D6019	REV. A SHEET 1 OF 1
DATE 06.11.03	TITLE CROSSTUBE MATERIAL		SCALE 1:1
A	06.11.03	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING



### NOTES

- 1) D6019-XXX CROSSTUBE  
          |  
      LENGTH

WHERE XXX IS LENGTH IN INCHES  
EG. 128" LONG TUBE: D6019-128

- 2) MATERIAL: 2.750 OD x 0.313 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.  
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi  
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:  
O.D.:  $\pm 0.006$  MEAN ( $\pm 0.012$  INCLUDING OVALITY)  
WALL:  $\pm 0.015$  MEAN ( $\pm 0.038$  INCLUDING ECCENTRICITY)  
LENGTH: XXX  $+0.125/-0.000$   
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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# Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1 - EN 10204:2004

**Hersteller:** Dart Aerospace Ltd.  
1270 Aberdeen Street  
K6A1K7 Hawkesbury, ON Canada  
**Produkt:** Rohre nahtlos gepresst  
Product / Produit: Tubes seamless extruded  
**Spezifikation:** AMS - QQ - A - 200/11E; Spezifikation Dart Aerospace D6007  
Specification:

**Zeugnisnummer:** 1293/06  
Cert No.: / No. du certificat:  
**Bestellnummer:** PO 00002429  
Order No. / No. de commande  
**Auftrag:** 21845/1  
Our Reference/Notre Reference:

**Werkstoff:** 7075  
Alloy/Alliage:  
**Abmessung:** 2,750 INCH x 2,124 INCH x 0,313 INCH x 128,000 INCH  
Size / Dimension: D6019-128 2.750 X 0.313 X 128

**Zustand:** T 6511  
Temper/Etat

**Kennzeichnung:** ALUnna - Cert No. 1293/06 - 7075 - T 6511 - Cast No. 6797 - AMS - QQA 200/11 - 2.750" OD X 0.313" Wall - Heat  
Marking/Marquage: No. 816/11 - Lot 21845/1 - PO. 00002429

**Lieferung:** pcs. lbs Country of Manufacture: Germany  
Delivered Material / Matériel délivré: 29 902

## 1. Chemische Analyse Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
6797/06	0,110	0,209	1,375	0,052	2,503	0,192	5,793	0,036	0,004	0,0222	0,0001	0,0014	0,0003

Hydrogen content: 0,11 ccm/100 g Al

Elements without indication < 0,01 %

## 2. Mechanische Eigenschaften Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat No.
min.	77,0	66,0				
max.						
1	86,420	78,735	11,0		171	816/11 - 29 pcs.

RMS: außen 25 - max. 17 µ"

**Ergebnis der Prüfungen:** Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

**Test results:** We confirm that the delivery has been tested and applies to the agreements made on receipt of the order  
**Resultats:** Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

KroosD



Certified acc. to DIN EN ISO 9001:2000, valid until 2009-03-27  
Certificate No.: 001959 QM



ALUnna

Abnahmebeauftragter

11.12.2006

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany

Customer PO	PO. 00002429
ALUnna ref. no.	21845/1
Date:	12.08.06


Dart Aerospace PO. 00002429  
D6019-128 Made in Germany  
Dest. Hawkesbury Ont., Canada

**free from live plant pests**

[illegible]



1) consignee

 **ALUnna**  
**DART AEROSPACE LTD.**  
HAWKESBURY

customer 40980

2) order no./item: 218450000/ 1

3) purchase order: PO 00002429

4) delivery note : no/item 00000/00

5) article/size : 21755

no: 77363/

69,85

MM

D6019-128

7,95

MM

EN AW-7075

2.750 X 0.313 X 128

7075

piece: 00029

length: 3251 mm

6) alloy

7) quantity

8) packing

9) packing

10) information

11) questions

12) supplier

: Holzkiste

: weight note:

039402

: Tel:49-2303/206-0

: Aluminiumwerk Unna AG

date : 08.12.2006

date : 00.00.00

53,95 MM

3.251,00 MM

made in Germany

cast no :

KG/net : 409,000  
KG/gross : 524,50

number : 0001

case no. : 1

Fax:49-2303/206-155  
Uelzener Weg 36  
59425 Unna

Aluminiumwerk Unna AG · Uelzener Weg 36 · D-59425 Unna

DART AEROSPACE LTD.  
1270 Aberdeen Street  
CDN K6A 1K7 HAWKESBURY  
ON

Kanada

Aluminiumwerk Unna AG  
Uelzener Weg 36 · D-59425 Unna  
Postfach 11 46 · D-59401

fon +49 (0) 23 03-206 - 0  
fax +49 (0) 23 03-206-116

Petra@aluminiumwerk.com  
www.aluminiumwerk.com

page: 1  
date: 11.09.2006  
customer: 40980

## order confirmation 21845

your PO dated:	11.07.2006	contact:	Petra Eisenblätter
your PO No.:	PO 00002429	Tel.:	+(303) 755 5672
your ref.:	Linda Lacelle	Fax:	+(303) 755 5936

representative: CLAUS J. BETTER

We supply acc. to our delivery terms and conditions:

item	quantity	unitprice	USD	unit value	USD	delivery
001	33,000	PC	307,75	PC	10.155,75	December 15, 2006

AWU article: 21755 / Tariff no. 76082081  
Customer article: D6019-128 2.750 X 0.313 X 128  
product: TUBES / seamless extruded / EN AW-7075 / round  
condition: T 6511 / AMS-QQ-A-200/11

outer diameter:	2,750 INCH Tol.	+0,012	-0,012
tol. for mean OD		+0,006	-0,006
inner diameter:	2,124 INCH		
wall thickness:	0,313 INCH Tol.	+0,031	-0,031
fixed length	128,000 INCH Tol.	+0,125	

inspection cert. acc. to EN10204/3.1 / RM 531 / Rp0,2: 455  
straightness 0,01 INCH / 1 FEET / RMS outer 25  
tol. on quantity +10 % -10 %  
2.750" OD 0.313" Wall, 128" lengths  
Part Number D6019-128 crosstube  
Surface Finish max. RMS 25  
Tolerances per ASTM B210 / your drawing D6019

Commerzbank AG, Unna  
Konto-Nr. 102 56 00 · BLZ 443 400 37  
S.W.I.F.T. - Code: COBADE 33 443  
IBAN : DE 90 4434 0037 01025600 00

Sitz der Gesellschaft: Unna  
Amtsgericht Hamm. HRB 3045

Vorstand: Volker Findeisen (Vors.)  
Thomas Wiese  
Vorsitzende des Aufsichtsrats: Irene Wiese



ALUnna

order confirmation

21845

page: 2  
date: 11.09.2006  
customer 40980

Tubes protected with corrosion protective oil  
Tubes line marked

Packing: seaworthy wooden cases  
terms of delivery: FOB German Airport

Terms of payment: 30 days after date of delivery

delivery address:

Dart Aerospace Ltd.  
1270 Aberdeen Street  
CDN Hawkesbury, ONT, K6A1K7  
Kanada

Es



# ALUnna

Aluminiumwerk Unna AG · Uelzener Weg 36 · D-59425 Unna

DART AEROSPACE LTD.  
1270 Aberdeen Street  
CDN K6A 1K7 HAWKESBURY  
ON  
Kanada

Aluminiumwerk Unna AG

Uelzener Weg 36 · D-59425 Unna

Postfach 11 46 · D-59401

fon +49 (0) 23 03-206 - 0

fax +49 (0) 23 03-206- 116

Petra@aluminiumwerk.com

www.aluminiumwerk.com

page: 1  
date: 12.11.2006  
customer 40980

## invoice

## 30312

your PO dated: 11.07.2006  
your PO No.: PO 00002429  
confirmation No.: 21845  
Delivery note: 0029662 11.12.2006

contact: Petra Eisenblätter  
Tel.: +(303) 755 5672  
Fax: +(303) 755 5936

representative: CLAUS J. BETTER  
Tax code 316/5702/0535

We supply acc. to our delivery terms and conditions:

item	quantity	unit	price USD	unit	value	USD
001	29,000	PC	307,75	PC	8.924,75	

AWU article: 21755 / Tariff no. 76082081  
Customer article: D6019-128 2.750 X 0.313 X 128  
product: TUBES / seamless extruded / EN AW-7075 / round  
condition: T 6511 / AMS-QQ-A-200/11

outer diameter:	69,850 mm	Tol.	+0,300	-0,300
tol. for mean OD			+0,150	-0,150
inner diameter:	53,950 mm			
wall thickness:	7,950 mm	Tol.	+0,800	-0,800
fixed length	3251,000 mm	Tol.	+3,175	

inspection cert. acc. to EN10204/3.1 / RM 531 / Rp0,2: 455  
straightness 0,25 mm / 304,8 mm / RMS outer 25  
tol. on quantity +10 % -10 %  
2.750" OD 0.313" Wall, 128" lengths  
Part Number D6019-128 crosstube  
Surface Finish max. RMS 25

carried forward: 8.924,75

Commerzbank AG, Unna.  
Konto-Nr. 102 56 00 · BLZ 443 400 37  
S.W.I.F.T. - Code: COBADE 33 333  
IBAN : DE 90 4434 0037 01025600 00

Sitz der Gesellschaft: Unna  
Amtsgericht Hamm. HRB 3045

Vorstand: Volker Findeisen (Vors.)  
Thomas Wiese  
Vorsitzende des Aufsichtsrats: Irene Wiese



ALUnna

invoice

30312

page: 2  
date: 12.11.2006  
customer 40980

Tolerances per ASTM B210 / your drawing D6019  
Tubes protected with corrosion protective oil  
Tubes line marked  
Packing: seaworthy wooden cases

terms of delivery: FOB German Airport

Terms of payment: 30 days after date of delivery

delivery address:

DART AEROSPACE LTD.  
1270 Aberdeen Street  
CDN Hawkesbury, ONT, K6A1K7  
Kanada

goods value: 8.924,75  
total: 8.924,75

weight: gross 524,50 net 409,00  
export exempt from tax - Country of origin: Germany

Aluminiumwerk Unna AG · Uelzener Weg 36 · D-59425 Unna

DART AEROSPACE LTD.  
1270 Aberdeen Street  
CDN Hawkesbury, ONT, K6A1K7  
Kanada

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fax +49 (0) 23 03-206-116  
info@alu-unna.de  
www.alu-unna.de

page: 1  
date: 11.12.2006  
customer: 40980

## delivery note

29662

your PO dated: 7.11.2006  
your PO No.: PO 00002429  
confirmation No.: 21845

contact: Petra Eisenblätter  
Tel.: +(303) 755 5672  
Fax: +(303) 755 5936  
representative: CLAUD J. BETTER

CARRIER: Senator International  
Seour VAT No.:  
AWU VAT No.: DE177869055  
Country of origin: Germany

We supply acc. to our delivery terms and conditions:

item	quantity	unit	net kgs
------	----------	------	---------

001	29,000	PC	
-----	--------	----	--

AWU article: 21755 / Tariff no. 76082081

Customer article: D6019-128 2.750 X 0.313 X 128

product: TUBES / seamless extruded / EN AW-7075 / round

condition: T 6511 / AMS-QQ-A-200/11

outer diameter: 2,750 INCH Tol.

+0,012 -0,012

tol. for mean OD

+0,006 -0,006

inner diameter:

2,124 INCH

wall thickness:

0,313 INCH Tol.

+0,031 -0,031

fixed length

128,000 INCH Tol.

+0,125

inspection cert. acc. to EN10204/3.1 / RM 531 / Rp0,2: 455

straightness 0,01 INCH / 1 FEET / RMS outer 25

tol. on quantity +10 % -10 %

2.750" OD 0.313" Wall, 128" lengths

Part Number D6019-128 crosstube

Surface Finish max. RMS 25

Tolerances per ASTM B210 / your drawing D6019

Tubes protected with corrosion protective oil

Tubes line marked

Packing:

seaworthy wooden cases

Commerzbank AG, Unna  
Konto-Nr. 102 56 00 BLZ 443 400 37  
S.W.I.F.T. Code COBADE FF 443  
IBAN: DE 90 4434 0037 01025600 00  
Sitz der Gesellschaft: Unna  
Amtsgericht Hamm, HRB 3045

Vorstand: Volker Findeisen (Vors.) Thomas Wiese  
Vorsitzende des Aufsichtsrats: Irene Wiese



ALUnna

invoice

30312

page: 2  
date: 12.11.2006  
customer 40980

Tolerances per ASTM B210 / your drawing D6019

Tubes protected with corrosion protective oil

Tubes line marked

Packing: seaworthy wooden cases

terms of delivery: FOB German Airport

Terms of payment: 30 days after date of delivery

delivery address:

DART AEROSPACE LTD.

1270 Aberdeen Street

CDN Hawkesbury, ONT, K6A1K7

Kanada

goods value: 8.924,75  
total: 8.924,75

weight: gross 524,50 net 409,00  
export exempt from tax - Country of origin: Germany



ALUnna

delivery note

29662

page: 2  
date: 11.12.2006  
customer: 40980

number of packages: 1  
number of pieces: 29

Terms of payment: 30 days after date of delivery  
terms of delivery: FOB German Airport

weight: gross 524,500 net 409,000

Packstücke

customer address:

DART AEROSPACE LTD.  
1270 Aberdeen Street  
CDN K6A 1K7 HAWKESBURY  
ON  
Kanada





ALUnna

Aluminiumwerk Unna AG · Uelzener Weg 36 · D-59425 Unna

DART AEROSPACE LTD.  
1270 Aberdeen Street  
CDN Hawkesbury, ONT, K6A1K7  
Kanada

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fax +49 (0) 23 03-206 116

info@alu-unna.de

www.alu-unna.de

page: 1

date: 11.12.2006

customer: 40980

## delivery note

29662

your PO dated: 7.11.2006  
your PO No.: PO 00002429  
confirmation No.: 21845

contact: Petra Eisenblätter  
Tel.: +(303) 755 5672  
Fax: +(303) 755 5936  
representative: CLAUS J. BETTER

CARRIER: Senator International  
Your VAT No.:  
AWU VAT No.: DE177869055  
Country of origin: Germany

We supply acc. to our delivery terms and conditions:

item	quantity	unit	net kgs
------	----------	------	---------

001	29,000	PC	
-----	--------	----	--

AWU article: 21755 / Tariff no. 76082081

Customer article: D6019-128 2.750 X 0.313 X 128

product: TUBES / seamless extruded / EN AW-7075 / round

condition: T 6511 / AMS-QQ-A-200/11

outer diameter: 2,750 INCH Tol. +0,012 -0,012

tol. for mean OD +0,006 -0,006

inner diameter: 2,124 INCH

wall thickness: 0,313 INCH Tol. +0,031 -0,031

fixed length 128,000 INCH Tol. +0,125

inspection cert. acc. to EN10204/3.1 / RM 531 / Rp0,2: 455

straightness 0,01 INCH / 1 FEET / RMS outer 25

tol. on quantity +10 % -10 %

2.750" OD 0.313" Wall, 128" lengths

Part Number D6019-128 crosstube

Surface Finish max. RMS 25

Tolerances per ASTM B210 / your drawing D6019

Tubes protected with corrosion protective oil

Tubes line marked

Packing: seaworthy wooden cases

Commerzbank AG, Unna

Konto-Nr. 102 56 00 BLZ 443 400 37

S.W.I.F.T. Code: COBADE 33 443

IBAN: DE 90 4434 0037 01025600 00

Sitz der Gesellschaft: Unna

Amtsgericht Hamm, HRB 3045

Vorstand: Volker Findelsen (Vors.), Thomas Wiese

Vorsitzende des Aufsichtsrats: Irene Wiese



delivery note

29662

page: 2  
date: 11.12.2006  
customer: 40980

number of packages: 1  
number of pieces: 29

Terms of payment: 30 days after date of delivery  
terms of delivery: FOB German Airport

weight: gross 524,500 net 409,000

Packstücke

customer address:

DART AEROSPACE LTD.

1270 Aberdeen Street

CDN K6A 1K7 HAWKESBURY

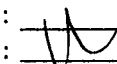
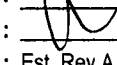
ON

Kanada



Date: Tuesday, 07/11/2006 9:10:48 AM  
User: Linda Lacelle

**Process Sheet**

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : CROSSTUBE MATERIAL
<b>Job Number</b> : 29369	
<b>Estimate Number</b> : 12566	
<b>P.O. Number</b> : N/A	<b>Part Number</b> : D6019128
<b>This Issue</b> : 07/11/2006 <b>S.O. No.</b> : N/A	<b>Drawing Number</b> : D6019 REV.A
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : N/A <b>Type</b> : LANDING GEAR	<b>Drawing Revision</b> : A
<b>Previous Run</b> : N/A	<b>Material</b> : N/A
<b>Written By</b> : 	<b>Due Date</b> : 10/12/2006 <b>Qty:</b> 33 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : 	
<b>Comment</b> : Est. Rev.A New Issue LL	

**Additional Product**

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
----------------	------------------------------	----------------------

1.0

PG

PURCHASING



**Comment:** PURCHASING

Issue P/O: 2429

C20611107

(33)

a) Order as per Dwg D6019

b) Material: 2.750 x 0.313 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube

c) Minimum ultimate tensile strength = 77 ksi

d) Minimum tensile yield strength = 66 ksi

e) Tolerance are per ASTM B210 (see details on Dwg D6019)

f) Material certification required

2.0

D6019128

Crosstube Material



**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 33.0000 Each(s)  
Crosstube Material

3.0

PACKAGING 1

PACKAGING RESOURCE #1



**Comment:** PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached

06/12/28 (33) 29

4.0

QC6

DIMENSIONAL CHECK



**Comment:** DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6005

M8 06/12/28 29

Tuesday, 07/11/2006 9:10:48 AM  
Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CROSSTUBE MATERIAL

Job Number: 29369

Part Number: D6019128

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

5.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
-----	-----------------	----------------------------



Comment: HAND FINISHING RESOURCE #1  
Chemical Conversion Coat as per QSI 005 4.1

6.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION
-----	-----	---



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

7.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------



Comment: PACKAGING RESOURCE #1  
Identify and Stock  
Location: MGT 26+

8.0	QC21	FINAL INSPECTION/W/O RELEASE
-----	------	------------------------------

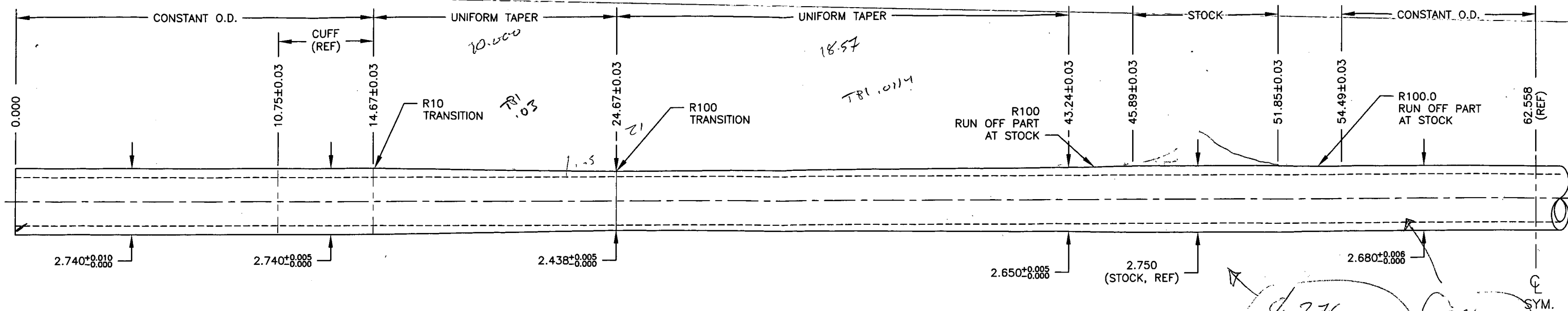


Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



07/01/11

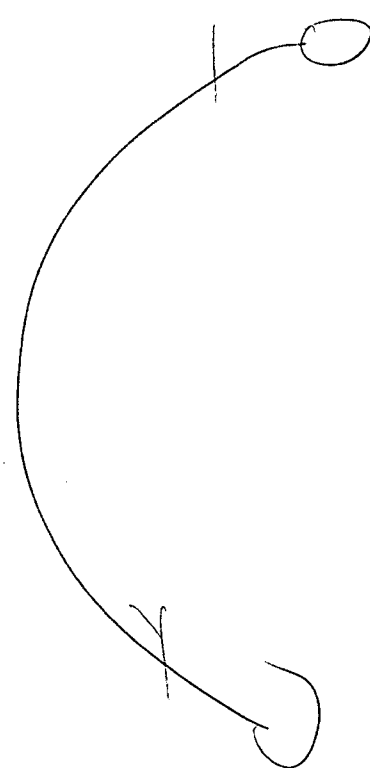


# D412-644-1451 MACHINING DETAIL

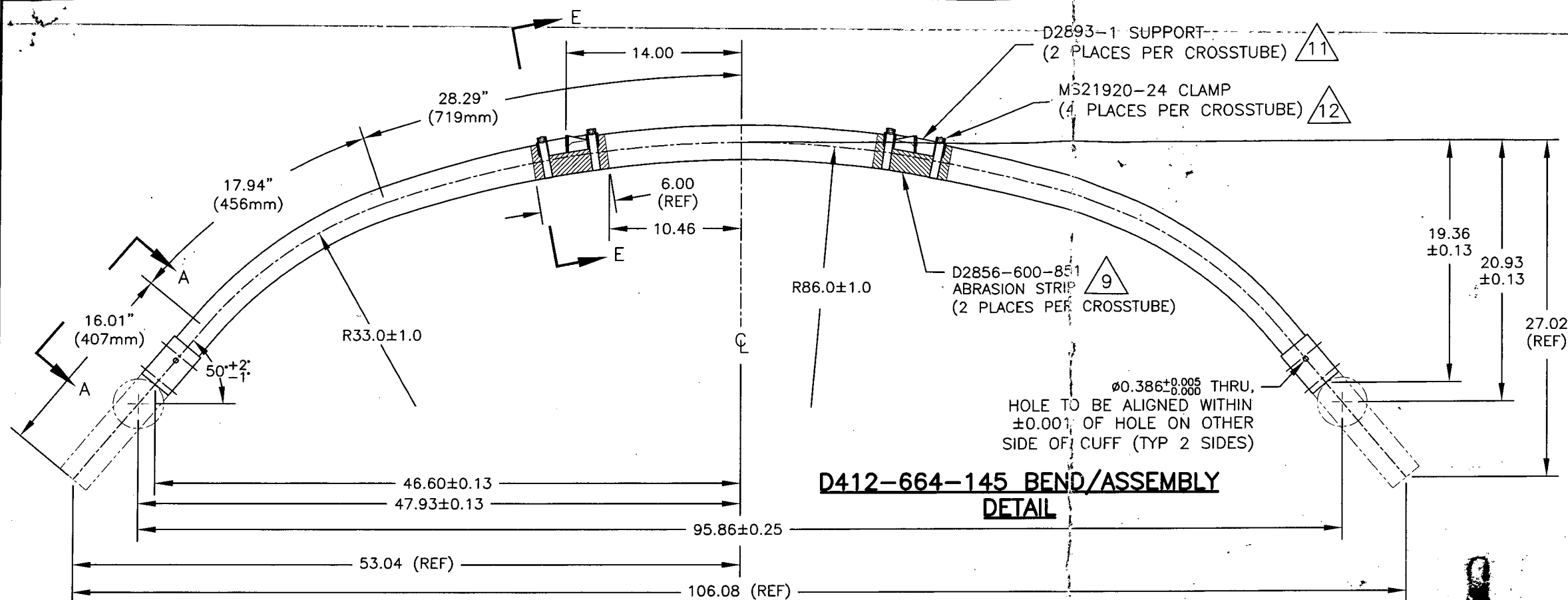
PRELIMINARY ISSUE

TOTAL LENGTH: 125.116"  
EXTENSION D6005-125  
PART # 25665

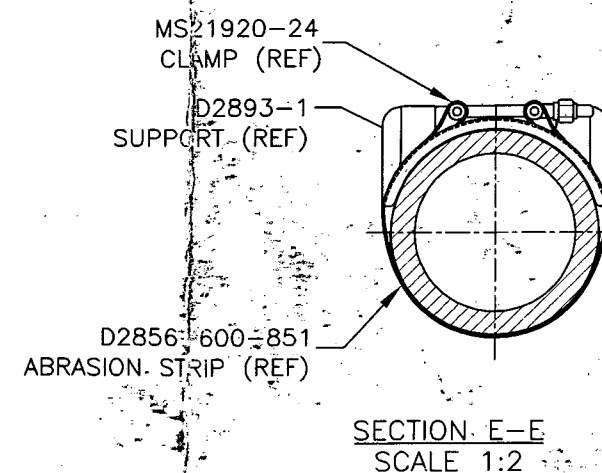
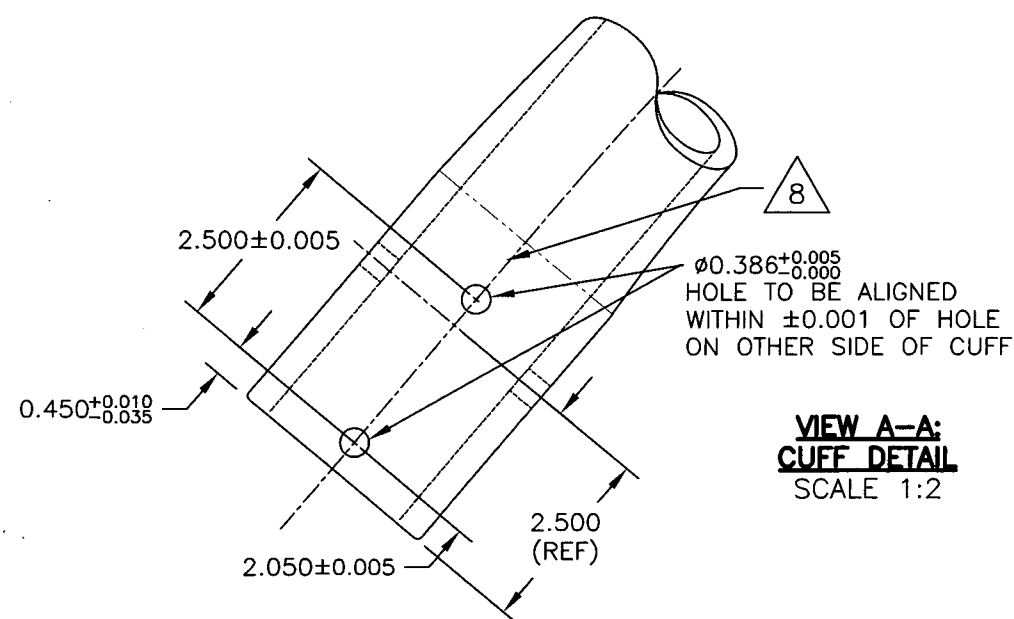
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	DATE	TITLE	
	06.11.06	CROSSTUBE (412CF ULTRA-LO FWD)	
			REV. A
			SHEET 3 OF 3
			SCALE
			1:4



PRELIMINARY ISSUE



**D412-664-145 BEND/ASSEMBLY  
DETAIL**



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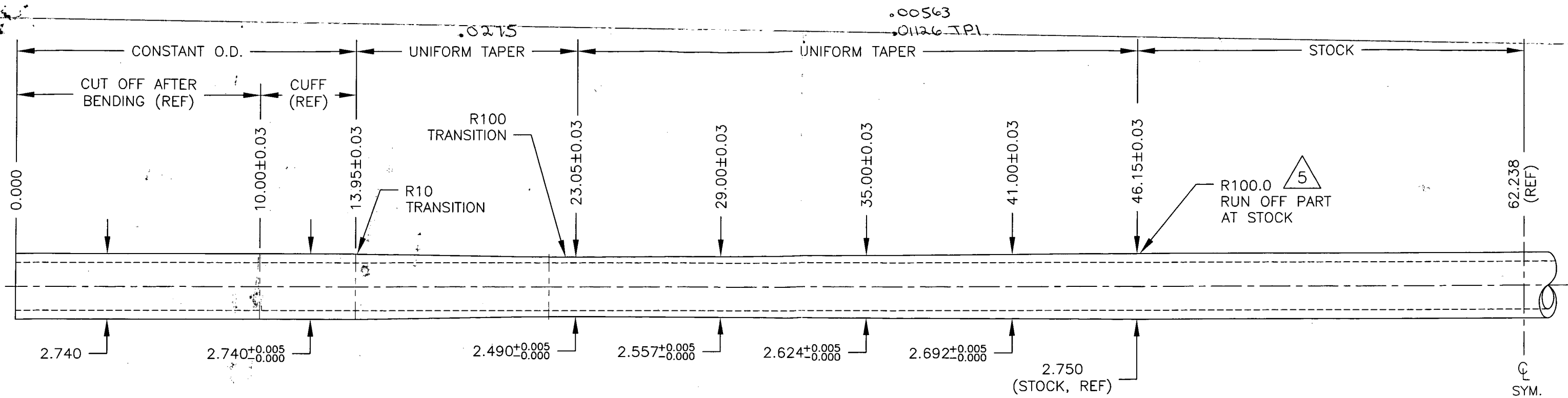
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**DART**  
DRAWING NO.  
D412-664-145  
TITLE  
CROSSTUBE (412 LOW-NARROW FWD)

DART AEROSPACE LTD.  
HAWKESBURY, ONTARIO, CANADA

REV. A  
SHEET 2 OF 3  
SCALE  
1:1





# D412-664-145 MACHINING DETAIL

PRELIMINARY ISSUE

MAKE FROM

Ø2.750 Ø2.125.1D

1<sup>st</sup> chuck 50.50"  
2<sup>nd</sup> chuck

T.L. = 124.476

69.189

- for 1<sup>st</sup> prog. ZO = .050" to move  
- for 2<sup>nd</sup> prog. ZO = end of tube

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	DATE	TITLE	
	06.12.21	CROSSTUBE (412 LOW-NARROW FWD)	
		DRAWING NO.	REV. A
		D412-664-145	SHEET 3 OF 3
		SCALE	1:4